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Binary laser system with rigidly bonded cavities as an interferometric detector of gravitation-induced lasing frequency shifts

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Abstract

Theoretical investigation of the effect of the earth gravitation field on lasing frequency of a gas laser is performed on the basis of a covariant generalization of the Lamb theory. A scheme of an optical detector for measuring gravitation-induced lasing frequency shifts and a new interferometric test in the frameworks of the Newton approximation of the gravitation theory are proposed.